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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/282,851	03/31/1999	CHANG-SOO PARK	678-252 (P8722)	9197

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PAUL J FARRELL
DILWORTH & BARRESE
333 EARLE OVINGTON BOULEVARD
UNIONDALE, NY 11553

EXAMINER

LAMARRE, GUY J

ART UNIT	PAPER NUMBER
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2133

DATE MAILED: 06/16/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/282,851

Applicant(s)

PARK ET AL.

Examiner

Guy J. Lamarre, P.E.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 March 2003 and 04 April 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 63, 64, 66, 67, 69, 72, 73, 75, 76, 78-80, 87, 88, 91, 97, 98 and 100-108 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 63, 64, 66, 67, 69, 72, 73, 75, 76, 78-80, 87-88, 91, 97, 98 and 100-108 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 March 1999 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 16 September 2002 is: a) ☒ approved b) ☐ disapproved by the Examiner
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

0. This office action is in response to Applicants' **Amendment**, filed on 11 March 2003.

0.1 A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 04 April 2003 has been entered.

0.2 Claims 1-62, 65, 68, 70-71, 74, 77, 81-86, 89-90, 92-96, and 99 are cancelled, Claims 100-108 are added, Claims 63, 64, 66, 67, 69, 72, 73, 75, 76, 78-80, 87-88, 91 and 97 are amended. Claims 63, 64, 66, 67, 69, 72, 73, 75, 76, 78-80, 87-88, 91, 97, 98 and 100-108 remain pending.

Claim Rejections - 35 USC ' 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1.0 This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

1.1 **Claims 63, 64, 66, 67, 69, 72, 73, 75, 76, 78-80, 87-88, 91, 97, 98 and 100-108 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicants' Admitted prior art (hereinafter Admitted prior art) in view of Meidan et al. (US Patent No. 5,936,972; June 18, 1997).**

As per Claims 63, 66, 67, 69, 72, 75, 76, 78-80, 87-88, 91, 97, 98, 100-104 and 106-108 **Admitted prior art** substantially discloses the procedure for the claimed mobile or base or remote communication system having a turbo encoder (Figs 1-2) capable of processing variable size input data blocks comprising: means to send data or a processor for determining to concatenate a number of consecutive input data blocks to compose a super frame, according to a permissible delay or error rate of the input data characteristics; and a turbo encoder (page 1 last para.) a buffer for storing the consecutive input data blocks (dk); a first constituent encoder (Fig. 1 block 12) for receiving the super frame and encoding the super frame which is composed of a number of input data blocks; an interleaver (Fig. 1 block 16) for interleaving the data of the super frame; and a second constituent encoder (Fig. 1 block 14) for encoding the interleaved data of the super frame. {See **Admitted prior art**, Figures 1-2, page 1 last para. - page 4 para. 2, in passim, wherein apparatus and method are described.} **Not specifically described** in detail in **Admitted prior art** is the step whereby means is provided for determining a number of input sub-frames or sub-blocks or sub-packets required to construct a super frame or frame or block or packet based on frame size or permissible delay or error rate.

However the approach of breaking or partitioning or segmenting or dividing a data super frame or frame or block or packet into sub-frames or sub-blocks or sub-packets and performing the reverse transformation to recover the original data subsequent to intermediate processing is well known. For example, **Meidan et al.**, in an analogous art, discloses an interleaving algorithm wherein such techniques are described based on bit error rate or message width, type of interleaving or transfer media characteristics including means to initialize data communication via call setup, and means to assess memory size requirements prior to start of data communication. {See **Meidan et al.**, Id., Fig. 2, ABSTRACT and col. 2 lines 7 et seq., and col. 5 et seq.} **Therefore**, it would have been obvious to a person having ordinary skill in the art at the

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time the invention was made to modify the procedure of the **Admitted prior art** by including therein width adjusting means based on the kind of information to be sent, as taught by **Meidan et al.**, because such modification would provide the procedure disclosed in the **Admitted prior art** with a technique whereby *“the message structure determiner 160 uses syndrome vectors to estimate the BER of symbol-by-symbol detected data to ascertain the received signal quality and determine the most likely transmitted message structure. In this embodiment, the transmitted message structure can be varied in length, type of interleaving, source data rate, convolutional code used, and any combination of the above. This embodiment may also be modified to allow only certain properties to be varied or only allow certain combinations of the above properties to be varied.”* {See **Meidan et al.**, col. 5 line 15 et seq.}

As per **Claims 64, 73, 105, Meidan et al.** discloses the procedure for the claimed mobile communication system as claimed in claim 48, wherein said interleaver includes an interleaving address mapper for interleaving said super frame. {See **Meidan et al.**, col. 5 line 15 et seq., e.g., *“the transmitted message structure can be varied in length, type of interleaving.” including data addressing and mapping means*}

1.1.1 Claims 64, 73, 102, 105 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Applicants' Admitted prior art** (hereinafter **Admitted prior art**) in view of **Meidan et al.** (US Patent No. 5,936,972; June 18, 1997) in further view of **Erroz et al.** (US Patent No. 6,370,669; Jan. 23, 1998).

As per **Claims 64, 73, 105, Admitted prior art** and **Meidan et al.** substantially disclose the procedure for the claimed mobile or base or remote communication system having a turbo encoder (Figs 1-2) capable of processing variable size input data blocks. {See **Admitted prior art**, Figures 1-2, page 1 last para. - page 4 para. 2, in passim, wherein apparatus and method are described.} **Not specifically described** in detail in **Admitted prior art** or **Meidan et al.** is the step whereby means is provided for channel interleaving and multiplexing or modulation.

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However such approach is well known. For example, Erroz et al., in an analogous art, discloses an information-processing algorithm wherein such techniques are described. {See Erroz et al., Id., Fig. 2 blocks 212 and 214.} Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify the procedure of the Admitted prior art and Meidan et al. by including therein channel interleaving and multiplexing means, as taught by Erroz et al., because such modification would provide the procedure disclosed in the Admitted prior art and Meidan et al. with a technique whereby “*a channel 212 interleaver pseudo-randomizes code symbols*” for better burst error protection. {See Erroz et al., col. 6 line 28 et seq.}

As per Claim 102, Erroz et al. discloses the procedure for the claimed multiplexing means, including means for latency or permissible delay (col. 1 line 25 et seq.), block size or memory size adjustment (col. 2 line 10 et seq. and Fig. 2 blocks 204 and 234). {See Erroz et al., Fig. 2 and col. 14 line 12 et seq.}

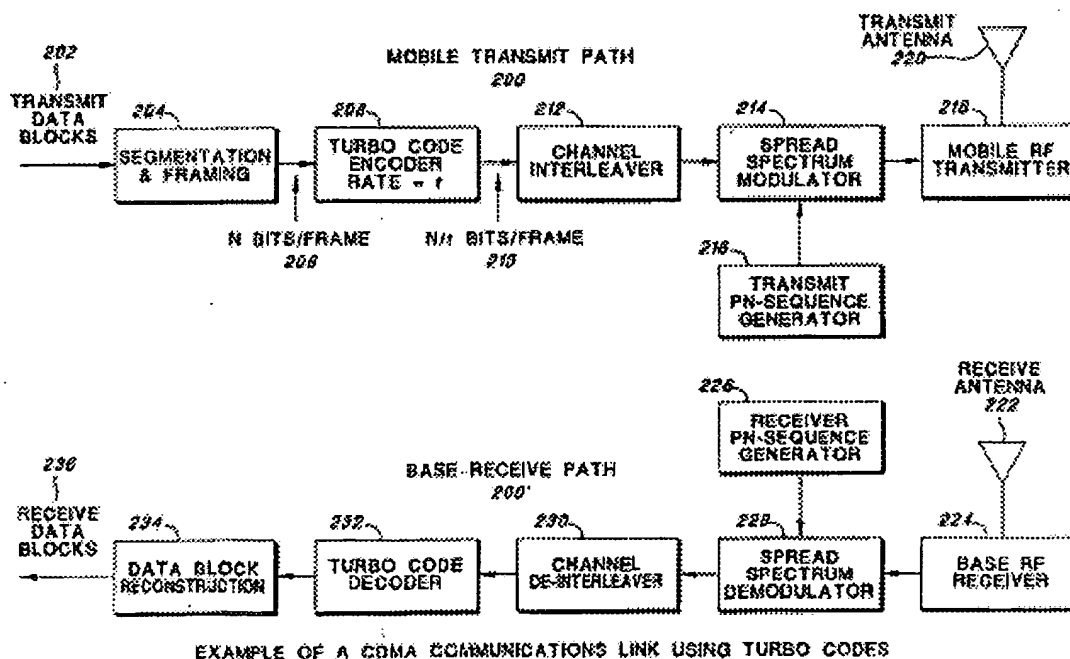


FIG. 2

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Conclusion

2. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

2.1 Any response to this action should be mailed to:

Commissioner of Patents and Trademarks, Washington, D.C. 20231

or faxed to:

(703) 746-7238, (for After-Final communications),

(703) 746-7239, (for formal communications intended for entry),

(703) 746-5463 (for informal or draft communications, please label "PROPOSED" or "DRAFT").

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Fourth Floor (Receptionist).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Guy J. Lamarre, P.E., whose telephone number is (703) 305-0755. The examiner can normally be reached on Monday to Friday from 9:30 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Albert De Cady, can be reached on (703) 305-9595.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-3900.

Guy J. Lamarre, P.E.



Patent Examiner

6/14/03
